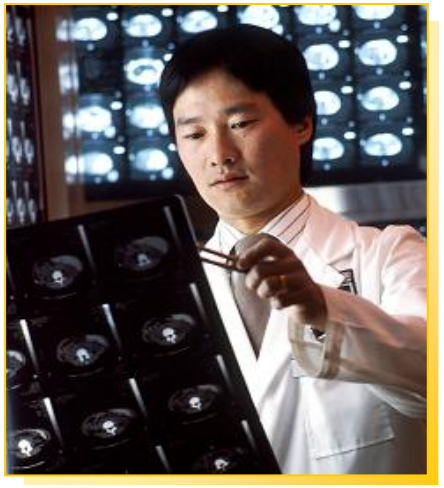
An Overview of the NCI and CCR

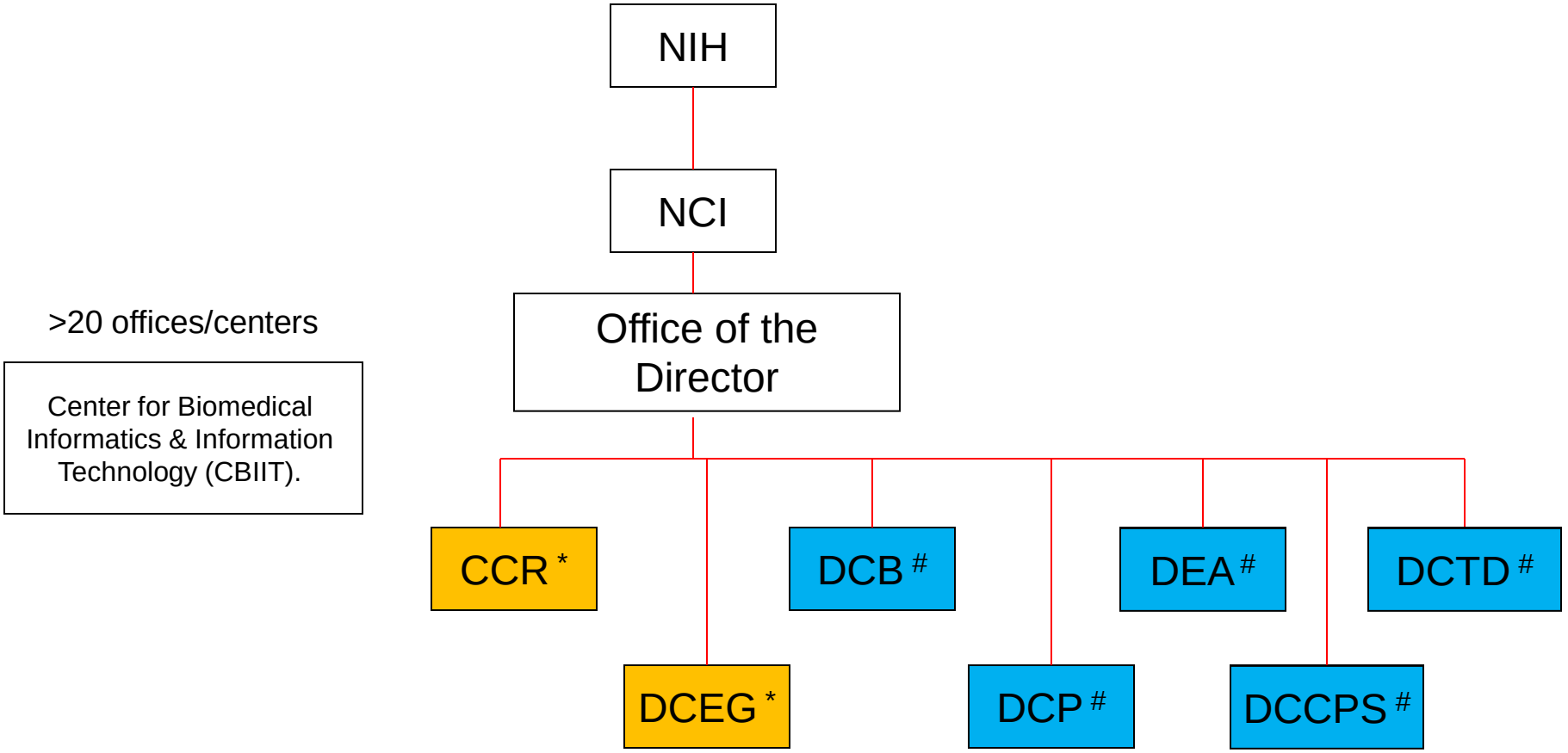
Elizabeth Ness, RN, MS
Nurse Consultant (Education)
Center for Cancer, NCI

The National Cancer Institute



- Largest component of the NIH
- Largest cancer research organization in world
- >3,000 FTEs
- Director: Harold Varmus, M.D.

NCI Organizational Structure



* *Intramural Research Program*

\# *Extramural Research Program*

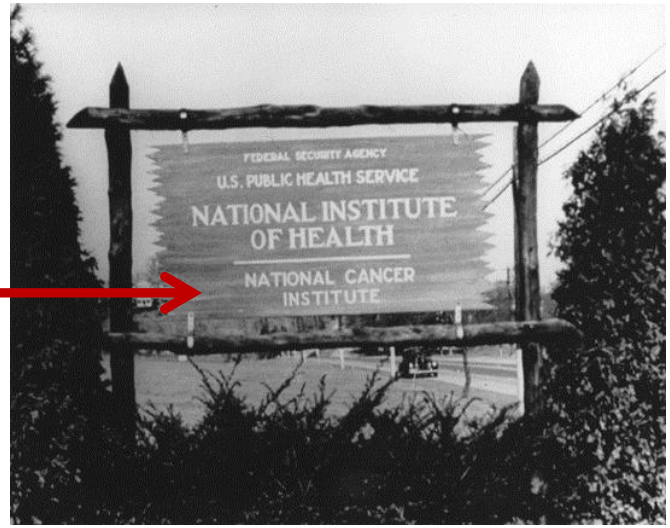
DCTD Programs

- Cancer Diagnosis Program (CDP)
- **Cancer Imaging Program (CIP)**
- **Cancer Therapy Evaluation Program (CTEP)**
- **Developmental Therapeutics Program (DTP)**
- Radiation Research Program (RRP)
- Biometric Research Branch (BRB)
- Office of Cancer Complementary and Alternative Medicine (OCCAM)

NCI Budget

- > $5,000,000,000
- ≈ 81% extramural research activities
- ≈ 15% intramural research activities

1937: National Cancer Institute Act



1944: PHS Act

1971: National Cancer Act

The National Cancer Program

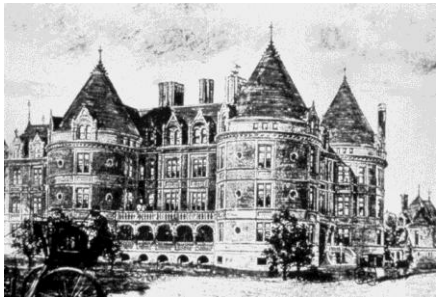
- Role of NCI is to coordinate, support and conduct cancer research
- Other HHS agencies are partners in the National Cancer Program and play complementary roles:
  - FDA coordinates drug approvals
  - CDC promotes strategies for preventing and controlling cancer
  - CMS administers program to provide insurance coverage for care

NCA Key Provisions

- National Cancer Advisory Board (NCAB)
  - 18 scientific and lay members are appointed by the President to advise NCI on major initiatives against cancer
- President's Cancer Panel
  - 3-member panel of experts, including a consumer, who independently appraise the progress of the national program and submit an annual report directly to the President.
- Granted bypass budget authority
- NCI Director: presidential appointee
- Formalized the NCI-designated cancer center program

Brief Historical Perspective: NCI Designated Cancer Centers

In the beginning…. 3 cancer research centers



Memorial Sloan-Kettering Cancer Center (1884)
New York Cancer Hospital + Sloan Kettering Institute (1960)

Wistar Institute (1892)

Roswell Park Cancer Institute (1898)

Historical Perspective

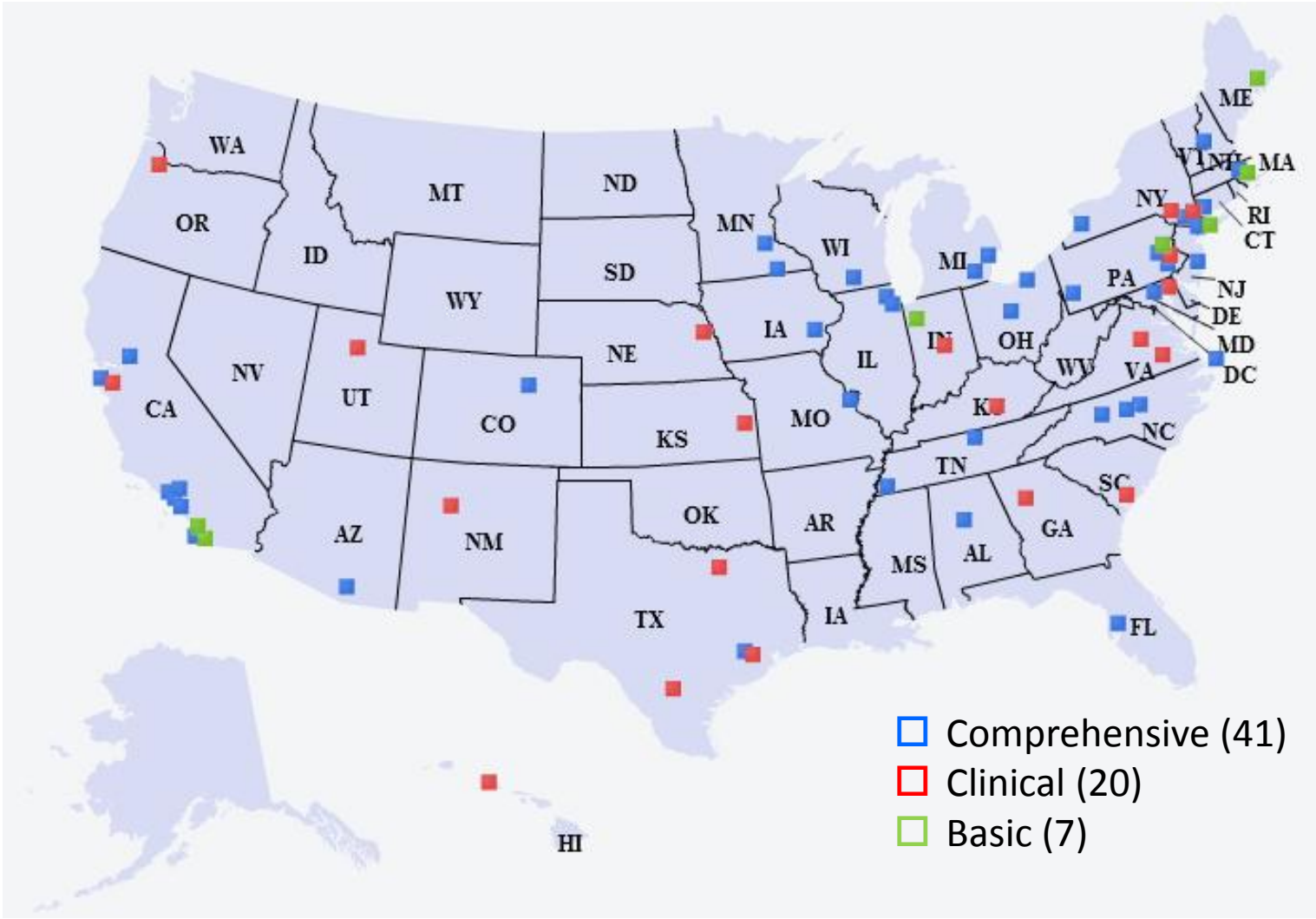
- 1941: MD Anderson Cancer Center was established by the Texas State Legislature
  - One of the nation's first NCI-designated comprehensive cancer centers in 1971
- 1967: 8 Cancer Centers Programs receiving NCI funding
- 1974: Fox Chase Cancer Center formed as union of:
  - American Oncologic Hospital (1904)
  - Institute for Cancer Research (1927)

NCI Designated Cancer Centers (n = 68)

- Three major areas of research:
  - Basic research
  - Prevention, control, behavioral and population-based
  - Clinical research

- Two types of centers:
  - **Cancer Centers** (27)
    - Scientific agenda focuses on any one or two areas
  - **Comprehensive Cancer Centers** (41)
    - Scientific agenda integrates all three areas

NCI-Designated Cancer Centers



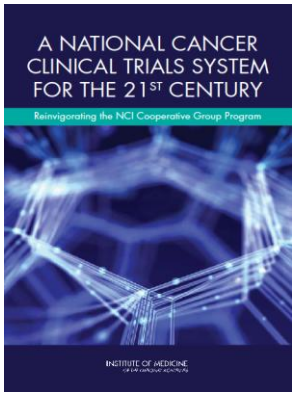
Cooperative Group History…

- April 1955 Congress awarded $5 million to the NCI to establish the Cancer Chemotherapy National Service Center (CCNSC)
- Coordinate the first national, voluntary, cooperative cancer chemotherapy program
- First group was the Acute Leukemia Chemotherapy Cooperative Study Group A (ALCCSGA) focusing on pediatric leukemia
  - First clinical trial ran from 1955-1956 and compared 6-MP to 6-MP plus azaserine

…Cooperative Group History

- 1955-1960:
  - Development of over 15 Groups, organized and operated by research grants from NCI
  - Main purpose - test new anticancer agents from the NCI's investigational agent development program
- 1966:
  - Separated from the drug development program
  - Multidisciplinary studies begun
- 1981: Mechanism of support converted from a grant to cooperative agreement
  - Helped to define the involvement of NCI staff in the coordination of Group activities

Need for Change: IOM Recommendations (March 2010)



- Emphasized critical need for a public clinical trials system
- 4 goals for modernization with 12 recommendations
  - Improve speed & efficiency of trial development & activation
  - Incorporate innovative science and trial design
  - Improve prioritization, support, and completion of trials
  - Incentivize participation of patients and physicians

NCI National Clinical Trials Network (NCTN)

NCTN	Merged Cooperative Groups
Alliance for Clinical Trials in Oncology (formed March 2011)	American College of Surgeons Oncology Group (ACOSOG) + Cancer and Acute Leukemia Group B (CALGB) + North Central Cancer Treatment Group (NCCTG)
ECOG-ACRIN Cancer Research Group (formed May 2012)	Eastern Cooperative Oncology Group (ECOG) + American College of Radiology Imaging Network (ACRIN)
NRG Oncology (formed January 2013)	National Surgical Adjuvant Breast & Bowel Project (NSABP) + Radiation Therapy Oncology Group (RTOG) + Gynecologic Oncology Group (GOG)
Southwest Oncology Group (SWOG)	N/A
National Cancer Institute of Canada, Clinical Trials Group (NCIC-CTG)	N/A
Children's Oncology Group (COG)	N/A 2000 merger of the Children's Cancer Group (CCG), the Pediatric Oncology Group (POG), the Intergroup Rhabdomyosarcoma Study Group (IRSG), and the National Wilms' Tumor Study Group (NWTSG)

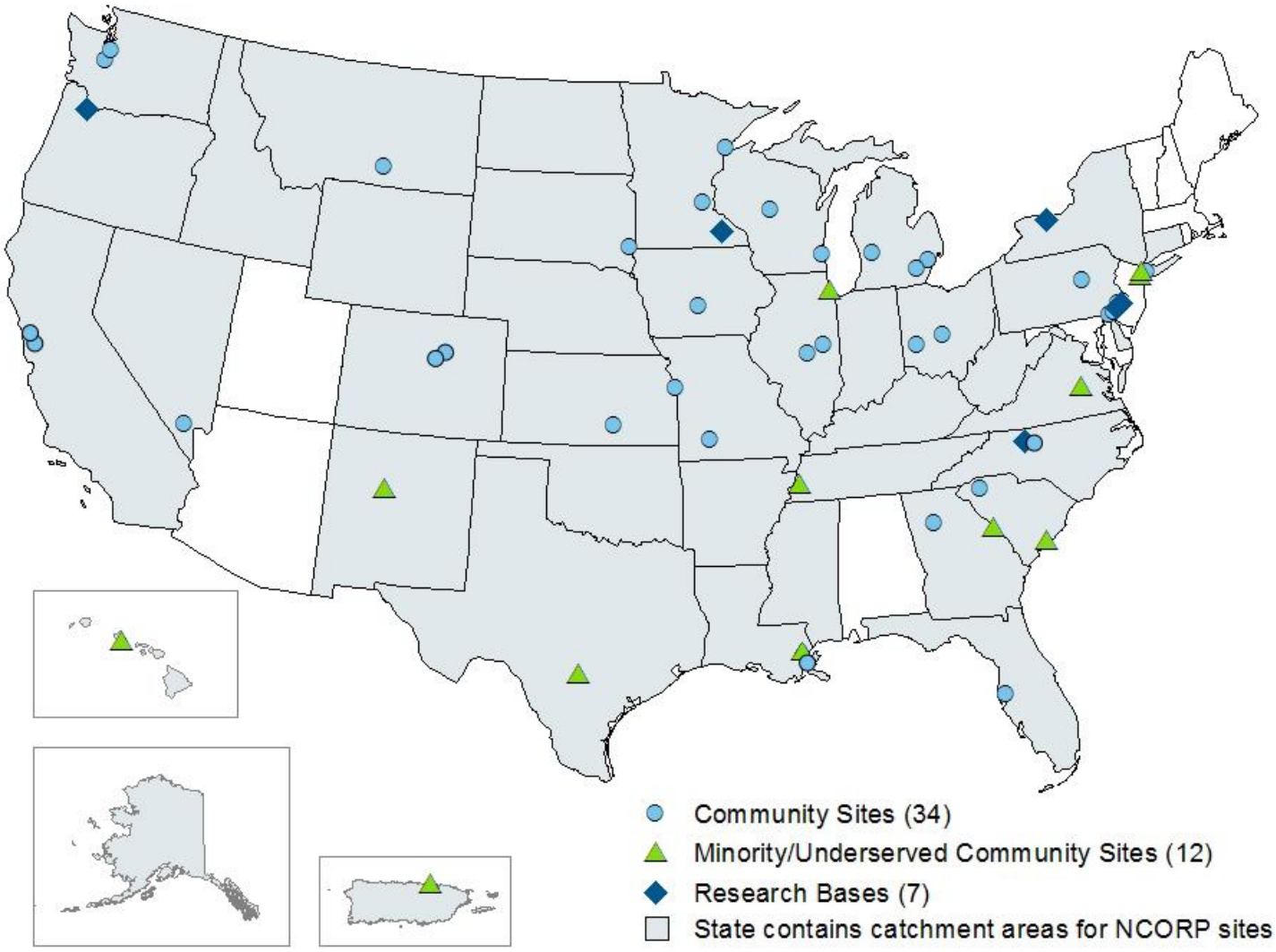
NCI Community Oncology Research Program (NCORP)…

- National network to provide care to diverse populations in community-based healthcare practices across for cancer care delivery research
- Approved by the Board of Scientific Advisors on June 24, 2013, NCORP integrated into one new program two prior networks:
  - NCI Community Clinical Oncology Program (Community Clinical Oncology Programs, Minority-Based Clinical Oncology Programs, Research Bases
  - NCI Community Cancer Centers Program (NCCCP),
- Collaborative initiative between DCP, DCCPS, CRCHD

…NCORP

- Network consists of: investigators, cancer care providers, academic institutions, and other organizations
- Research focus aimed at:
  - Reducing cancer risk and incidence
  - Improving cancer care outcomes
  - Expanding access to cancer care
  - Increasing quality and balancing cost
  - Reducing cancer disparities

NCORP Sites


Community Sites (34)
Minority/Underserved Community Sites (12)
Research Bases (7)
State contains catchment areas for NCORP sites

CIRB: Historical Perspective

- Started in 2001 as pilot project for Phase III cooperative group trials
- Reduce the significant local administrative burdens of IRB review for multi-site trials while maintaining a high level of human subjects protection
- Operated under a “shared responsibilities” model where IRB review responsibilities were shared by the CIRB and Local IRB until January 2014

Independent Model

- CIRB becomes IRB of Record for investigators
  - Local IRB has no review responsibilities
- CIRB reviews institution's local context considerations before approving new study at institution
- CIRB reviews:
  - Locally-developed recruitment/educational materials
  - Locally-occurring unanticipated problems or serious or continuing non-compliance
- Responds to investigator/institution questions
- Institution is responsible for monitoring conduct of research
  - Includes reporting concerns to CIRB

4 CIRBs

- *Adult CIRB – Late Phase Emphasis (LPE)*
  - Began reviews of Cooperative Group Phase 3 treatment trials in 2001
- *Pediatric CIRB*
  - Began reviews of COG phase 2, 3 and pilot trials in 2004
- *Adult CIRB – Early Phase Emphasis (EPE)*
  - Began reviews of phase 0, 1, 2 trials late 2013
- *Cancer Prevention & Control (CPC) CIRB*
  - Began reviews January 2015

Cancer Trials Support Unit (CTSU)

- Purpose:
  - Facilitate access to NCI-funded clinical trials for qualified clinical sites
  - Support the management and conduct of those clinical trials
- Began in 1999 to streamline and harmonize support services for phase III Cooperative Group trials
- Scope has expanded to include support of multiple NCI-funded networks and clinical trials of all phases and types
  - NCTN
  - NCI Experimental Therapeutics Clinical Trials Network (ETCTN)

NCI and Drug Development…

- Began with Cancer Chemotherapy National Service Center
- Developed methodologies and crucial tools for chemotherapeutic development
  - cell lines (NCI-60)
  - animal models
- >400,000 drugs in repository that have gone through screening process
  - ≈ 80,000 compounds screened since 1990 using current screening system
- NCI develops small amount of agent for basic science research and initial clinical trials, then works with a manufacturer

…NCI and Drug Development

- Half of the FDA-approved anticancer drugs were sponsored by NCI including:
  - Cisplatin for treating testicular, ovarian, and lung cancer
  - Paclitaxel (Taxol) and fludarabine phosphate for treating several cancers and lymphoma
- 1957: The first malignancy (choriocarcinoma) was cured with chemotherapy at NCI
- 1963: Studies were initiated at NCI in Hodgkin's disease with combination

NCI and Drug Development…

- 1955: Cancer Chemotherapy National Service Center (CC**NSC**)
- First federal program to promote drug discovery for cancer
- Developed methodologies and crucial tools for chemotherapeutic development
  - cell lines (NCI-60)
  - animal models
- >400,000 drugs in repository that have gone through screening process

…NCI and Drug Development

- ≈ 80,000 compounds screened since 1990 using current screening system
- NCI develops small amount of agent for basic science research and initial clinical trials, then works with a manufacturer
- Mechanisms of collaboration via technology transfer agreements
  - Cooperative Research and Development Agreements (CRADAs)
  - Clinical Trial Agreements (CTAs)

Clinical Missions of CCR

Inform and empower the cancer research community by making breakthrough discoveries in basic and clinical cancer research and by developing them into novel therapeutic interventions for adults and children afflicted with cancer or infected with HIV/AIDS.

CCR Leadership

- **Director, CCR**
  Robert H. Wiltrout, PhD
- **Scientific Director for Basic Research**
  Robert H. Wiltrout, PhD
- **Scientific Director for Clinical Research**
  Lee Helman, MD

- **Deputy Directors:**
  William L. Dahut, MD
  Ronald E. Gress, MD
  Lee J. Helman, MD
  Glenn Merlino, PhD
  Lawrence E. Samelson, MD
  Jeffrey N. Strathern, PhD
  Mark C. Udey, MD, PhD

Branches…

Branches focus on pre-clinical and clinical research related to cancer diagnosis, treatment, and prevention.

- Dermatology Branch (DB)
  - Mark Udey, M.D., Ph.D.
- Developmental Therapeutics Branch (DTB)
  - Yves Pommier, M.D., Ph.D.
- Endocrine Oncology Branch (EOB)
  - Electron Kebebew, M.D., F.A.C.S
- Experimental Immunology Branch (EIB)
  - Alfred Singer, M.D.
- Experimental Transplantation and Immunology Branch (ETIB)
  - Ronald Gress, M.D.
- Genetics Branch (GB)
  - Paul Meltzer, M.D., Ph.D.

…Branches…

Branches focus on pre-clinical and clinical research related to cancer diagnosis, treatment, and prevention.

- Genitourinary Malignancies Branch (GMB)
  - James Gulley, M.D., Ph.D.
- HIV and AIDS Malignancy Branch (HAMB)
  - Robert Yarchoan, M.D.
- HIV DRP Host-Virus Interaction Branch (HVIB)
  - Stephen Hughes, Ph.D.
- Lymphoid Malignancies Branch (LYMB)
  - Thomas Waldmann, M.D.
- Neuro-Oncology Branch (NOB)
  - Mark Gilbert, M.D.
- Pediatric Oncology Branch (POB)
  - Crystal Mackall, M.D.
- Radiation Biology Branch (RBB)
  - James Mitchell, Ph.D.

…Branches

Branches focus on pre-clinical and clinical research related to cancer diagnosis, treatment, and prevention.

- Radiation Oncology Branch (ROB)
  - Kevin Camphausen, M.D.
- Surgery Branch (SB)
  - Steven Rosenberg, M.D., Ph.D.
- Thoracic and Gastrointestinal Oncology Branch (TGIB)
  - Raffit Hassan, M.D.
  - David S. Schrump, M.D.
- Urologic Oncology Branch (UOB)
  - W. Marston Linehan, M.D.
- Vaccine Branch (VB)
  - Jay Berzofsky, M.D., Ph.D.
- Women's Malignancy Branch (WMB)
  - Stanley Lipkowitz, M.D., Ph.D.

Laboratories

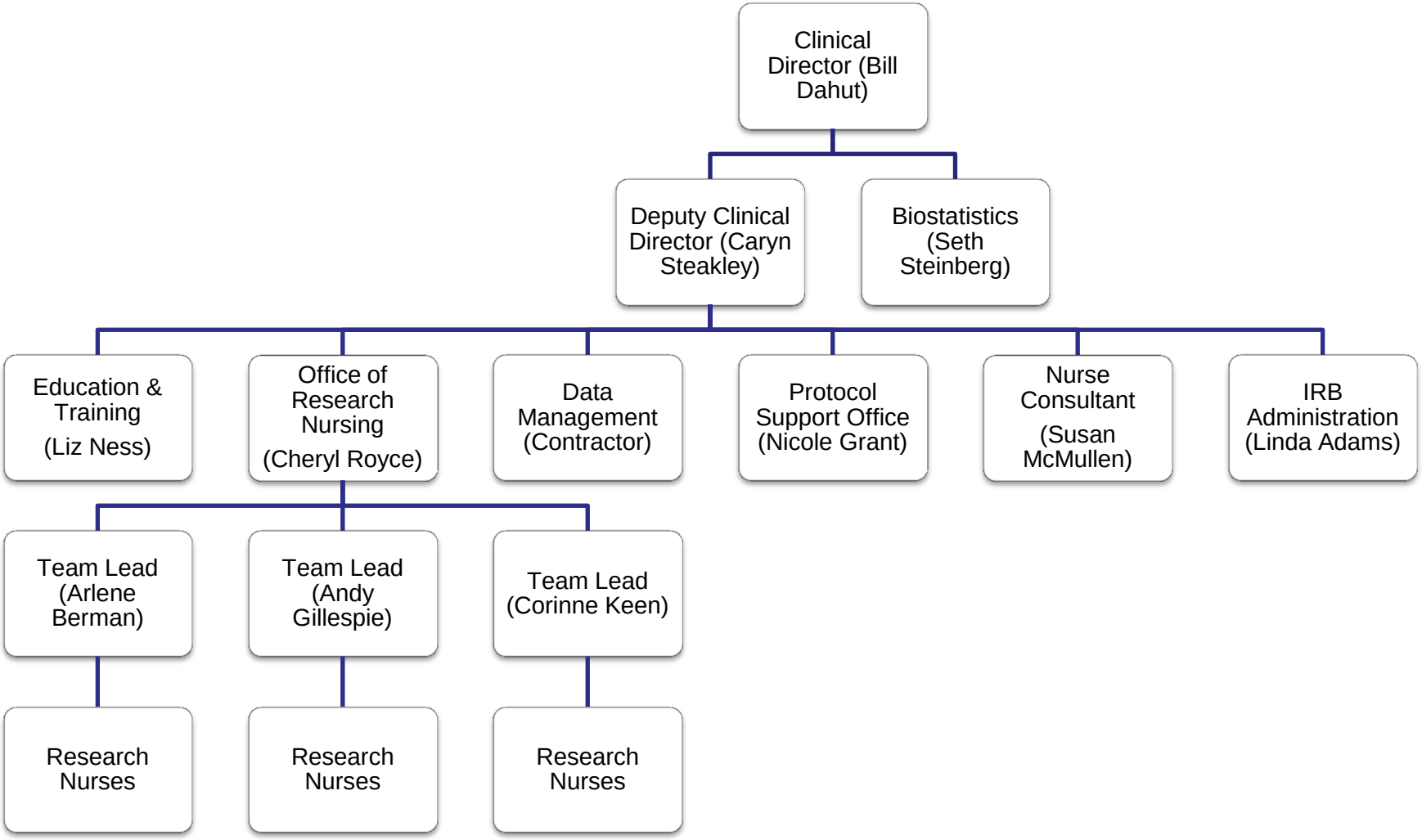
Laboratories are composed of investigators studying the molecular origin and growth mechanisms of cancer and AIDS. Experts in fields such as molecular and cell biology, developmental biology, biochemistry, carcinogenesis, and immunology are providing the knowledge base required to understand and treat these and, potentially, other diseases as well.

Programs

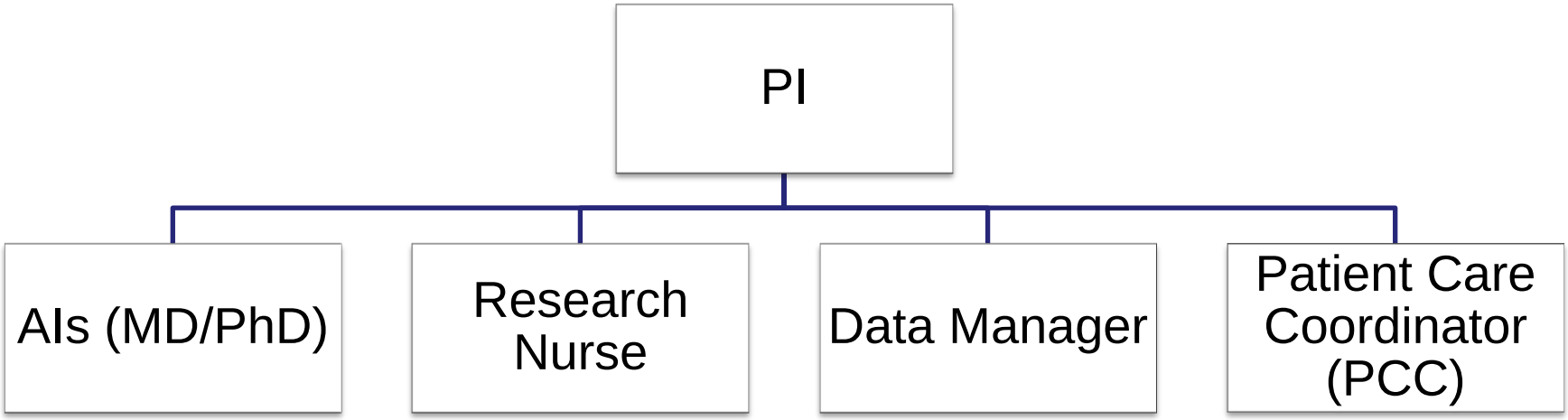
Programs encompass investigators, organized within a specific field of research, who are working together to solve a complex scientific problem.

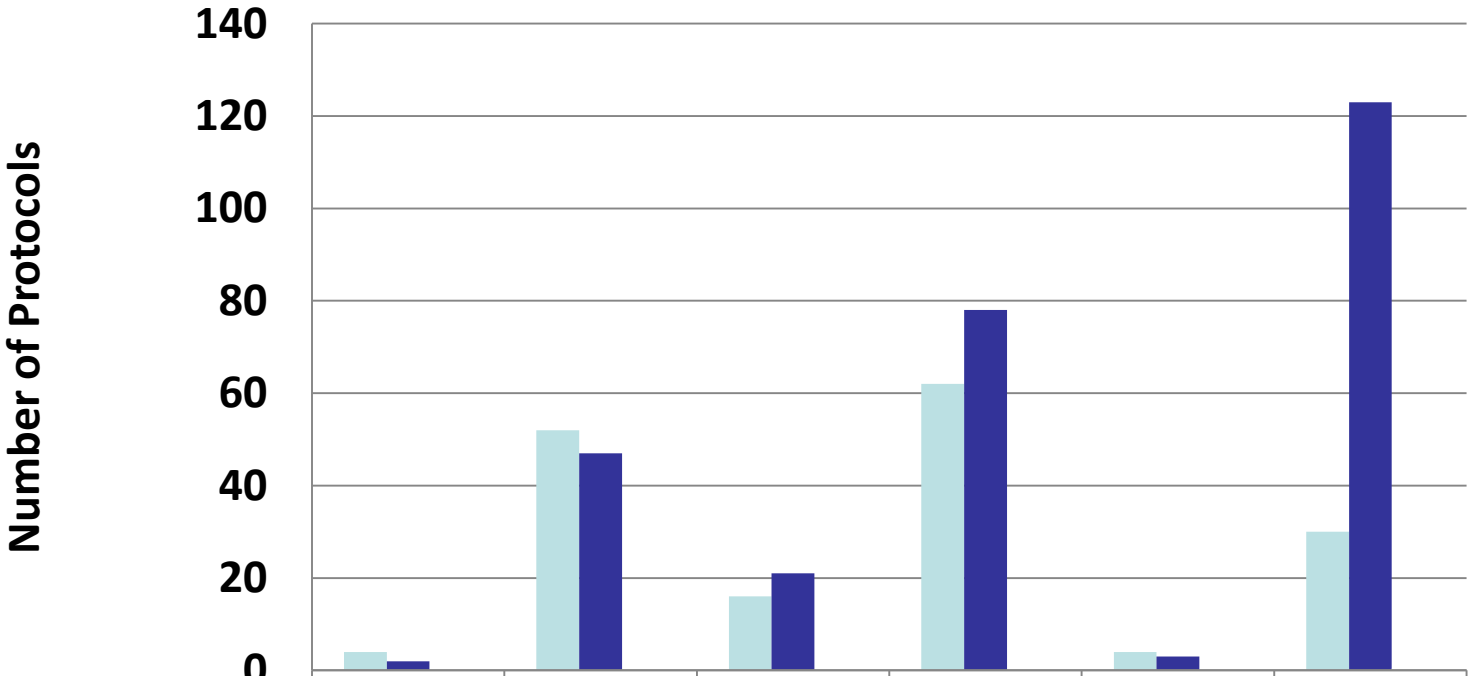
- Cancer and Inflammation Program
  - Giorgio Trinchieri, M.D.
- HIV Drug Resistance Program
  - Stephen Hughes, Ph.D.
- Molecular Imaging Program
  - Peter Choyke, M.D., F.A.C.R.
- Mouse Cancer Genetics Program
  - Lino Tessarollo, Ph.D.

Office of the Clinical Director



CCR Research Teams





	Phase 0	Phase 1	Phase 1/2	Phase 2	Phase 3	Other
Closed (168)	4	52	16	62	4	30
Open (274)	2	47	21	78	3	123
Percentage	1%	23%	8%	32%	1%	35%

Overview of Federal Contract Process

Government sends out a RFP

Outline the contractual obligations and services provided by contractor to customer

Define contract deliverables

Require periodic reports

↓

Contractor/vendor responds to RFP

Define key staff and staffing levels

↓

Government reviews all RFPs

Formal, competitive process

↓

Contract awarded

Contractors for CCR

- Harris Corporation
- Leidos
- Kelly Services

NCI/CCR Data Management Contract

- Contract exists between the NCI and Harris Corporation
- Subcontractor (IT): Asclepius Solutions, Inc. (ASI)

Scope of Work…

- Coordinate clinical data management program and services
  - Data entry/abstraction
  - Data QA and QC
  - Assist with audit/monitoring preparation activities
- Central registration and randomization

…Scope of Work

- Database management:
  - Programming & maintenance for current and legacy databases
  - Data transfer
  - Training
- Monitoring visit for internal/investigator-sponsor trials

Key Staff

- Government:
  - Project Officer: Caryn Steakley
- Contractor:
  - Project Manager: Elena Byrley
  - Manager, CDM Services : Christine Gordon
  - Informatics: Abu Muyeen

Current Staffing

Staff Make-up:

- Management
  - Team Leads
- Clinical Data Managers
- QA
- Central Registration
- Informatics

CCR Accomplishments

http://home.ccr.cancer.gov/ccrataglance/whatweaccomplished.html